Ham-Equip Digest   Thu, 9 Sep 93   Volume 93 : Issue   37

Today's Topics:
                    For Sale: Halicrafters SX111
          HF RX Recommendations? (NRD353/R8E/IC-72/RS5000)
                    REVIEW: Alinco DJ-X1 scanner
                        Want Icom IC-290H

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 8 Sep 1993 16:05:47 GMT
From: mdisea!mothost!lmpsbbs!ss17.comm.mot.com!bobla@uunet.uu.net
Subject: For Sale: Halicrafters SX111
To: ham-equip@ucsd.edu

I have for sale a Halicrafters SX111. This is a 10-80Meter
Ham band SW reciever. It is in pretty good shape and is
functional. Email me with an offer or questions if you are
interested

rob

Date: Wed, 8 Sep 1993 12:56:22 GMT
From: agate!doc.ic.ac.uk!uknet!root44!praxis!mikec@ames.arpa
Subject: HF RX Recommendations? (NRD353/R8E/IC-72/RS5000)
To: ham-equip@ucsd.edu

Hi Folks,

I wonder if you could help me? I've been using a Lowe HF150 for some
time now and I still love it - but - I'm starting to miss not being
able to scan and to have more memories and scan those too. I *dont*
want a scanner but such features are useful in a decent HF RX. The
possiblility of control from a computer would also be useful.

I'm considering part exchange for either of:

     Drake R8E
     Kenwood RS5000
     Icom IC-R72
     JRC NRD535

Price-wise they are all much the same here in the UK and doubtless a few
others have had to make the choice. Which did you prefer and why?

I should say that I've read the reviews in both the Passport to World Band
Radio and the WRTH Equipment Buyer's Guide but I'm still unsure although
the RS5000 seems to be the best on average.

I've also tried out an IC-R72 which I must say I liked a lot. Nice layout of
controls and quite "instinctive" to use and not too big either. The only thing
I could fault it on was the *appalling* audio quality on the AM Narrow
filter. Perhaps it was the environment in the shop but the HF150 sounds a
great deal better at the same b/w. Synchronous AM is also missing which is
sometimes a great boon in digging some broadcast station out.

Tell me what you think.

Thanks, Mike (G6DHU)

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Mike
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....
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Date: Wed, 1 Sep 1993 23:21:02 GMT
From: caen!destroyer!nntp.cs.ubc.ca!alberta!adec23!ve6mgs!not-for-mail@uunet.uu.net
Subject: REVIEW: Alinco DJ-X1 scanner
To: ham-equip@ucsd.edu

Review: Alinco DJ-X1 Scanner

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                        (schuster@panix.com)

INTRODUCTION

Back when the ICOM R-1 wideband pocket scanner had just been released
(except in North America) there was talk that another manufacturer of
amateur radio equipment, Alinco, was readying a similar model for sale.

That scanner, based upon the design of the DJ-F1T 2-meter handheld,
came to be known as the DJ-X1. Sized just slightly larger than the ICOM
R1 in every dimension, and having similar capabilities, it attracted my
interest after years of putting up with the R1's deficiencies:

     - poor filtering
     - lack of front-end AGC, causing severe overload problems
     - images and poor ultimate rejection due to mixing of spurs
         from the noisy synthesizer (fixed by the Raycom filter
         upgrade)
     - poor battery life using the internal 300 mAH battery pack
     - poor performance on HF

The DJ-X1 has not been marketed by Alinco USA. Given the present
regulatory climate in this country, it is unlikely that such a
continuous-coverage receiver would ever be sold here. The only way to get
one is to import it from another country (Japan or UK). After selling my
R1 I ordered a DJ-X1, based upon a favorable review in _Shortwave
Magazine_ (UK) and positive comments from several DJ-X1 owners on the
Usenet. Since most North American scanner enthusiasts are unfamiliar with
this model, I was asked to write this review to fill that knowledge gap.
The DJ-X1 is a very strange bird, as the following description will
show.

PRICE

Since the DJ-X1 is not sold in the US, there is no reference point for selling price. British dealers usually charge between 280 and 330 pounds sterling ($420 - $495) which, not surprisingly, is basically the same price as the ICOM IC-R1.

FIRST, AN APOLOGY

This review is going to be sketchy in some areas (specifications, battery life, and actual measurements of sensitivity, selectivity, etc) as it is based upon only a short period of use. I will be as complete as I can in my assessment of this device without venturing into the area of speculation.

SPECIFICATIONS

Frequency coverage: 2-905 MHz (guaranteed)
     (tunes 100 KHz - 1300 MHz)
Modulation modes: AM/FM narrow/FM wide
Channel steps: 5, 9, 10, 12.5, 20, 25, 30, 50, and 100 KHz
Current draw: MAX: 300 mA   BATT SAVER: 24 mA
Receiving system: AM/FMn: triple conversion FMw: double conversion

EXTERNAL APPEARANCE AND CONTROLS

Just as the ICOM R-1 resembles the "SAT" series of handheld ham rigs, so the Alinco DJ-X1 resembles the DJ-F1T. While tiny, it has the solid feel that ham equipment has, and which [sadly] most consumer scanners lack. The case is heavy-gauge plastic and metal, the knobs feel sturdy, and the keypad legends are printed on the case where they will not wear off from friction. On top there is a standard BNC antenna connector, ganged volume/squelch controls, and a click-stop VFO knob. On the right side are phones/line-out and DC-in connectors; each with a permanently attached protective rubber flap. The power connector is a standard mini coax and nominal 9VDC, center positive. On the left is a large rubber pad having three circumscribed buttons. These are "additional function" keys which are used in conjunction with the keypad. These F-keys are located exactly where the push-to-talk switch would be on a ham rig, giving the visual impression that this is, in fact, a ham rig rather than a scanner. I suppose that in certain situations this could be a plus.

The width and height are just a touch larger than the ICOM R-1. Rather than having an internal battery pack, the DJ-X1 has a slide-on pack which clips to the back, and has the same height and width as the scanner itself. The battery is attached to the back of the scanner via a

spring-loaded metal catch. This can be locked to prevent accidental release. The supplied 700 mAH pack is hefty, and makes the DJ-X1 a full third fatter than the R-1. The DJ-X1 used to be shipped with a clip-on battery case which came empty (you filled it with nicads yourself). Perhaps in order to improve sales, current models ship with a sealed battery pack that is not user-modifiable. The belt clip screws onto the battery pack, since when attached it actually forms the rear surface of the scanner. There is also a loop for a (supplied) carry strap as with the R-1. Note that while there is a DC-in socket on the scanner itself, power connected there will NOT charge the attached battery. You have to use the external charging stand to do that.

ACCESSORIES

Other accessories supplied are a charging stand (with integral wall transformer according to country of sale), belt clip, carry strap, and two rubberized antennas - one described as "high band" and the other as "low band" in the manual. During my testing of this model I almost exclusively used the GRE all-band rubber antenna that I bought for use with the Yupiteru MVT-7100. Alinco sells a $20 vinyl case for the DJ-F1T which also fits the DJ-X1. It has clear vinyl overlays for the display and keypad, and cutouts for other controls and attachments. Its method of closure, which must be able to accommodate the different size battery packs that might be attached, is unique: the back consists of two mating surfaces of Velcro-style material that can maintain whatever size that might be necessary to make the case fit snugly with the scanner as currently configured. It works.

DISPLAY

The tiny speaker is front-mounted near the top of the scanner. The speaker grille is flanked on either side by a column of push buttons (2 on the left side and 4 on the right). Below the speaker is the tiny LCD display. The contents of the LCD panel gives the first hint at how odd this scanner really is. First, the numerals are tiny, and of different sizes. The hundreds digit is smaller than the other two, and there is no direct readout of increments below 5 KHz. Instead, truly minuscule LCD segments bearing the legends "50", "25", and "75" are activated when needed. So 476.3875 would be displayed as little 4, plus large 76.38, followed by an activated "75" bar. To the left of the hundreds digit are two smaller digits which indicate the memory channel number. Frequencies about 1000 MHZ are indicated by the illumination of an "over 1000" bar, not by a "1" digit on the LCD.

There are indicators for numerous scanner modes and functions, which are equally tiny as well as cryptic. For instance, narrow FM mode is

indicated by a symbol which looks like a boat anchor. AM modulation is indicated by the letter "A", and wide FM mode by the illumination of both the boat anchor and "A" symbols. The scan/search speed is indicated by the number of segments in a tiny pie chart. One segment means 10 cps, two means 15, and three mean 20. A small "V" or "M" (actually \/ and /\/\) indicates whether one is in VFO or memory mode. Tiny additional LCD segments (bars, triangles, numerals) are added to indicate which memory bank is active. Also, there are one or two-letter indicators for battery saver and duty cycle, and for other functions that are not worth cataloging here. Curiously, although there is a defeatable "beep" which sounds when you press any of the buttons, its on/off state is not indicated anywhere on the display. The fact that the scanner is scanning or searching is indicated only by the fact that the decimal point of the frequency display is blinking. There is also a horizontal signal strength meter like that on the Yupiteru or ICOM handhelds. I did not evaluate its accuracy or linearity.

The LCD display is sidelit, and like the Yupiteru MVT-7100 the main keypad below it is translucent so that it is illuminated when the dial light is active. The dial light has two modes: a standard "push and it stays on for a few seconds" mode, and a novel "automatic" mode. In the latter situation the dial light goes on whenever you manipulate the controls. This is a great idea, and I wish the other manufacturers would do something like this!

KEYPAD

The main keypad has tiny buttons but they are well-spaced and not recessed as on the ICOM, so that they are easy to find and press without error. The "ENTER" button is not in a logical place, and its label is not highlighted in any way as to make it easy to find. Most of the buttons on the keypad, and on the columns of buttons aside the speaker, have dual functions. The main function is printed in white above the button, and the secondary function printed below in blue. To activate the second function you simultaneously depress the first "function" key on the left side of the scanner. There is no indication on the LCD that you have activated any of the "F" keys. Each of the three "F" keys may be used in conjunction with the VFO knob to rapidly increment one of the three MHz digits. But there is no indication on the LCD as to which one you are about to change, until you actually see it happen while turning the VFO knob.

OPERATIONAL FEATURES

The scanner has the standard set of functions one would expect from this type of product: scanning stored memory channels, limit search,

priority channel, manual entry, and moving data between the VFO and
memory channels. There are 100 memories which are arranged into three
groups: two "scanning memory" banks of 40 channels each, and one "search
storage" bank. The two 40-channel scan banks cannot be linked. Any number
of the 40 channels in each (referred to as the main and sub bank) may be
individually locked out. The other 20 channels are used in an unusual
way. The first 10 (L0, U0, L1, U1, etc) store the limits and modulation
of the five available search banks. They do =NOT= store the channel
increment you have selected; more on that later. The other 10 channels
are filled automatically during a frequency search. This function is
essentially useless, as the DJ-X1 lacks the "zero-matic" or
"center-track" tuning found on Uniden or GRE scanners. So search may stop
well short of the actual frequency of a signal found during search, and
each break of the squelch fills another of the 10 scratchpad memories.
When these memories fill, they are re-written, and there is no provision
to prevent duplication of entries. There is no provision for locking out
individual frequencies (such as those where birdies or uninteresting
signals exist) from being received during a frequency search.

Entering frequencies on the DJ-X1 is done in a most unusual way. It is
not difficult, but it takes some getting used to. Basically you cannot
directly key any value smaller than 10 KHz. You must enter a frequency
nearby, and then use the VFO knob to increment to the actual frequency.
Best shown by example: to enter 151.505 MHz, for instance, you would
select a channel increment of 5 KHz (see below) and then key in the
following:

     1 5 1 . 5 ENTER

and the display would indicate 151.50; from there you would click the
VFO knob upwards one notch so that the little "50" bar is illuminated.
Voila ... 151.505 MHz.

The DJ-X1 has a full range of channel increments from 5 to 100 KHz.
Selection of increment is pretty straightforward: press the "step" button
and the currently active increment is displayed. Click the VFO knob up or
down until the one you want is displayed, and then press the memory/VFO
button to go back info VFO mode. The LCD then displays the tuned
frequency (which may have changed in order to conform to the new step you
have selected). This much like the MVT-7100.

But (and this is a VERY BIG "but") manual selection of step (increment)
size is totally ignored when the scanner searches between frequency
limits. Instead, it chooses a step size based upon defaults that are
stored in ROM, and which almost always seem to be 5 KHz. So if you choose
to search for police signals between 470.6375 and 471.6625 MHz, for
example, you will be able to enter these frequencies accurately into an
Ln/Un memory pair. But when you activate the limit search (called

programmed scan) between those two frequencies, the scanner searches in 5
KHz increments, not 12.5 as would be assumed given these frequency
limits. As a result, it searches in between the actual assigned channels,
and I can find no way to get around that!

There are two ways of doing a frequency search without upper and lower
limits (i.e. pick a frequency, modulation, step size, and direction and
just keep going). In these functions the scanner will use the step size
you have chosen. Why it will not do so when searching between limits, is
beyond me. This severely cripples the DJ-X1 as a means of finding new
active frequencies in this manner.

SHORTWAVE PERFORMANCE

First, let me dispense with the issue of medium and shortwave
reception. No "continuous coverage" scanner will perform like a dedicated
shortwave radio costing even half its price. The DJ-X1 is no exception.
However, it does have adequate sensitivity to receive more powerful
international shortwave broadcasters when attached to a reasonable
telescopic whip antenna. It will even receive powerhouse signals using
the GRE rubber duckie, which puts its sensitivity in the class between
the AOR AR-1000 and Yupiteru MVT-7100. Filtering in AM mode is broad, and
many signals suffer from splatter or heterodyne due to signals in
adjacent channels. The product specifications are guaranteed only down to
2 MHz, and my limited testing bore that out. There are two reasons for
that conclusion: first, sensitivity drops off dramatically below 5 MHz or
so. Second, the lower you go, the more the set is plagued by powerful
internally-generated birdies. So, the DJ-X1 will be useful for casual
shortwave listening; nothing more.

"SCANNER BAND" PERFORMANCE

Sensitivity/selectivity on the other bands is adequate; much better
than the ICOM R-1 but not in the same class as the GRE PRO-43 or Yupiteru
MVT-7100. In Manhattan I found that, like many scanners, the UHF band was
filled with intermod from paging transmitters. Again, this was somewhat
better than the R1, but using the Alinco can be challenging under these
conditions.

As indicated before, the DJ-X1 will scan/search at 10, 15, or 20
increments/second. The manual warns that weak signals can be missed at
either of the two faster speeds. I found this to be true, but noted also
that it seemed to occasionally miss strong signals as well. This,
however, may be related to the next problem I had with the scanner -
"stuttering" while scanning memory channels.

After programming about 20 local frequencies into the main scan bank, I put it into memory scan mode and listened. The scanner seemed to be "stuttering" - that is, it kept getting tripped up on several of the programmed frequencies even when no transmission was present on those channels (as verified by an MVT-7100 programmed with the same frequencies). Since there is an obligatory 2-second delay after squelch is broken, this frequent interruption greatly reduces the effective scan speed. Raising the squelch threshold made it stutter less, so I began to think the Alinco was stopping on false signals like the R1. But the phenomenon was quite different, and not consistent. Stepping manually through the memory channels I found that the squelch would sometimes open for a fraction of a second when moving from a channel having a frequency in the VHF-hi range, to a channel having a frequency in another band. For instance, if CH#0 had 151.925 and CH#1 had 450.800, moving from CH#0 to CH#1 would sometimes cause a noise burst, while moving from CH#1 to CH#0 would not.

I thought at first that the VFO was generating noise bursts when stepping through adjacent channels required it to make big jumps in tuned frequency. But the intermittent nature of this phenomenon led me to eventually abandon that theory. Listening to the memory channels having VHF-hi frequencies with the squelch open, I occasionally heard faint interference in the background, sounding something like the video carrier of broadcast TV. My working theory is that this subtle intermod interference is intermittently breaking squelch on VHF-hi, and interrupting smooth memory search in the process.

AUDIO

The R1 showed that passable audio was possible even when using a tiny speaker. Audio on the DJ-X1 is not as good as on the ICOM. While the speaker is the same size, it provides sound which is more restricted in frequency range and somewhat more distorted. This is really not too objectionable when listening to the bark of a police dispatcher, for instance, but further limits the useability of the scanner for broadcast listening (shortwave or local programming).

SUMMING UP

I began by introducing the Alinco DJ-X1 as an "odd bird". I hope that my rather verbose description of its configuration and operational characteristics have made that statement clearer. The search for the perfect pocket scanner, sadly, still continues. I think that overall the DJ-X1 is a more useful receiver than the ICOM IC-R1, but that certain aspects of its operation (inability to use selected increment in limit search, for instance) detract from its better RF performance. If size

is your overriding consideration, I suggest that you compare both
receivers carefully before deciding.
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Date: 8 Sep 1993 14:17:06 -0700
From: usc!usc!not-for-mail@network.ucsd.edu
Subject: Want Icom IC-290H
To: ham-equip@ucsd.edu

I'm looking for a functional Icom IC-290H (the all-mode mobile).
I do not mean the 10 watt model (IC-290A). It only needs to work
in FM mode, and a manual would be nice. I'd also be interested
in more than one of them, for a reasonable price.

Tnx,
Dick   mead@usc.edu

End of Ham-Equip Digest V93 #37
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